

GENERIC · POWERTRAIN

P0684

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0684

Glow Plug Control Module to PCM Communication Circuit Range/Performance

P0684 indicates that the powertrain control module (PCM) has detected a communication problem with the glow plug control module, specifically that the signal circuit is outside the expected range or performance criteria. The PCM monitors the dedicated communication line between itself and the glow plug control module, and when the voltage or timing of the signal does not match what the PCM expects, it sets this code. This is a generic code that applies to all OBD-II vehicles with a glow plug system, typically diesel engines.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Computer and output circuits

Symptoms you may notice

- Illumination of the check engine light or service engine soon light
- Hard starting or extended cranking in cold weather due to glow plugs not functioning
- Rough idle or white smoke after a cold start because glow plugs are not heating properly
- Often no symptoms besides the warning light, especially in warmer weather when glow plugs are less critical
- Possible reduced engine performance or limp mode if the PCM limits operation to protect the system
- In some vehicles, a glow plug indicator light may flash or stay on continuously

Common causes, most likely first

- 1 Damaged or corroded wiring or connectors between the glow plug control module and the PCM
- 2 Faulty glow plug control module, often due to internal failure or water intrusion
- 3 Poor electrical connections at the PCM or glow plug control module, such as loose pins or grounds
- 4 Open or shorted communication circuit, including chafed wires or broken conductors
- 5 Low battery voltage or charging system issues causing erratic module communication
- 6 Failed PCM, though this is less common and should be diagnosed last



How to diagnose and fix it

- 1 Perform a visual inspection of the wiring harness and connectors between the glow plug control module and PCM for damage, corrosion, or loose pins
- 2 Check battery voltage and charging system operation to ensure stable power supply to both modules
- 3 Use a scan tool to retrieve all stored codes and freeze frame data, and check for related communication codes
- 4 Test the communication circuit for continuity, short to ground, and short to power using a digital multimeter
- 5 Verify power and ground supplies to the glow plug control module and repair any faults
- 6 If the circuit tests good, substitute a known-good glow plug control module and clear the code to see if it returns
- 7 If the code persists after module replacement, diagnose the PCM and its connections, and reprogram or replace as needed

Don't Replace the Glow Plug Module Yet

- A common oversight is assuming the glow plug control module is defective when the real problem is a chafed wire in the harness that only shorts intermittently when the engine moves or heats up.
- This code can be set by a weak battery or poor ground connection that causes voltage spikes or drops, so always load-test the battery and inspect ground straps before condemning any module.
- On many vehicles, the glow plug control module communicates with the PCM over a dedicated serial data line, and a failure in that line can also trigger other communication codes that may distract from the root cause.
- Replacing the glow plug control module without clearing adaptive learning values or performing a relearn procedure can cause the code to reappear immediately, so follow the manufacturer's reset steps.
- P0684 is sometimes stored alongside glow plug circuit codes for individual cylinders, but those codes indicate faulty glow plugs or wiring to the plugs, not the communication line itself.

Can I keep driving with P0684?

You can generally drive the vehicle with this code, but cold starting may be difficult and extended cranking can wear the starter and battery. Avoid relying on the vehicle in freezing temperatures until the fault is repaired, and address the issue promptly to prevent further damage to the glow plug system.

Tools that help

- OBD-II scan tool with live data and bidirectional control capabilities
- Digital multimeter with continuity and voltage measurement functions
- Wiring diagram for the specific vehicle to trace the communication circuit
- Test light or logic probe for quick circuit checks
- Basic hand tools for connector and module access



Reading P0684

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 6** Computer and output circuits.
- 84** The exact fault within that area.

Often seen with

P0670 Glow Plug Module Control Circuit · **P0671** Cylinder 1 Glow Plug Circuit · **P0672** Cylinder 2 Glow Plug Circuit · **P0673** Cylinder 3 Glow Plug Circuit · **P0674** Cylinder 4 Glow Plug Circuit

See it working

Watch the animated explainer [How an Oxygen Sensor Works: Live 3D Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0684/>

